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**PATENT APPLICATION No. 10/661,465**  
**Applicants: Franco Vitaliano and Gordana Vitaliano**  
**Response To Detailed Action Comments of 9/21/06**  
**October 13, 2006, FedEx Air bill # 858896775047**

To: USPTO

Art Unit 1631

Response To Detailed Action Comments, Date Mailed: 9/21/2006

**A.1.** The USPTO has issued rejections per 35 U.S.C.101 of claims 1-16, 19-30, 36, 37, 42, 45, 47-49, 51-60, 61-63, and 65, because, "In the absence of the hand of man, the naturally occurring products are considered non-statutory subject matter....", and,

**A.2.** The USPTO has issued rejections per 35 U.S.C.102 (b) of claims 1-16, 19-30, 36-37, 42, 45, 47-49, 51-57, and 61-65 for being anticipated by Gelderblom [AIDS, 1991, Volume 5, pages 617-637] which describes a naturally occurring human immunodeficiency virus (HIV).

**A.3.** The USPTO has issued rejections of claims 1-16, 19-30, 36-37, 42, 45, 47-49, 51-60, and 61-65 for being anticipated by Stewart et al. [Current Topics in (sic) Microbiology and Immunology, 1995, volume 199, pages 25-38] which describes a naturally occurring adenovirus.

To briefly summarize, the USPTO asserts that naturally occurring HIV and a naturally occurring adenovirus as cited above in A.2 and A.3 share some structural and functional similarities with natural clathrin protein. The instant invention utilizes clathrin. The USPTO therefore says A.2 and A.3 anticipate the instant invention, which is a bio-based element that features novelty and utility in quantum information processing.

Contrary to all USPTO assertions, all of the above rejected claims listed in **A.1, 2, and 3** relate to non-naturally occurring systems and are the result of the hand of man. The terms "purified", and "bio-engineered," and their obvious synonyms like "man-made" and "non-naturally occurring", are referenced in the instant invention specification as well as in the herein amended claims. E.g., in amended claim 1, below:

1. (Currently Amended): A non-naturally occurring quantum information processing element offering precise control over its fabrication and operation comprising